



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/654,405	09/04/2003	Choong-Sheek Hong	PO300/US/CS	5453
7055	7590	02/24/2006	EXAMINER	
GREENBLUM & BERNSTEIN, P.L.C. 1950 ROLAND CLARKE PLACE RESTON, VA 20191			BHATTACHARYA, SAM	
			ART UNIT	PAPER NUMBER
			2688	

DATE MAILED: 02/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/654,405	Applicant(s) HONG, CHOONG-SHEEK	
	Examiner Sam Bhattacharya	Art Unit 2688	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

**A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.**

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 25 November 2005.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6, 10, 12, 17 and 18 is/are rejected.
- 7) ☒ Claim(s) 7-9, 11, 13-16, 19 and 20 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 17 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
3. Claim 17 recites the limitations “the upper first radial,” “the upper second radial,” “the lower first radial” and “the lower second radial” in lines 2-4. There is insufficient antecedent basis for these limitations in the claim.

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 4, 5, 10, 12 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mack, II et al. (US 6,510,325 B1) in view of Kim (US 2003/0181228 A1) and Akai et al. (US 2004/0204194 A1).

Regarding claims 1, 10, 12 and 18, Mack discloses a double folder mobile phone including a main body 9 provided with a front display 20; an upper folder 11 connected with an upper part of the main body by a hinge, having a speaker 4; and a lower folder 8, 10 connected

Art Unit: 2688

with a lower part of the main body by a hinge 13, having a plurality of buttons 2. See FIGS. 1A and 3B.

Mack fails to disclose a plurality of buttons on the upper folder. However, Kim discloses mobile phone having a plurality of buttons 260 on an upper folder. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the mobile phone of Mack and Lee by providing buttons on the upper folder as taught by Kim so that a user can input data into the mobile phone even when the upper folder is closed.

The combination of Mack and Kim fails to disclose a speaker on the lower folder of the mobile phone. However, Akai discloses a mobile phone with a speaker on the front of the lower folder as well as the front of the upper folder to provide stereo sound. See FIG. 9(8). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the mobile phone of Mack and Kim by including a speaker on the lower folder for the purpose of adding the functionality of a loudspeaker with the mobile phone when a user desires to listen to an incoming call at a distance from the phone and in stereo.

Regarding claim 4, Mack discloses an auxiliary display 6 provided on the outer side of the upper folder.

Regarding claim 5, Mack discloses a camera 7 provided on the outer side of the upper folder.

3. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mack, II et al. in view of Kim and Akai et al., and further in view of Ohta (US 2004/0235539 A1).

Regarding claim 2, the combination of Mack, Kim and Akai fails to disclose a switch at the side of the main body that controls a motor on each hinge to automatically folding and unfold the folders. However, Ohta discloses a mobile phone having a side switch 121 on the main body that controls a motor 111 on the hinge 105 to automatically open and close the folder 103. One skilled in the art would be able to extend this concept to a second folder as well. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the mobile phone of Mack, Kim and Akai to include a side switch to control the movement of the folders as taught by Ohta so a user is freed from having to physically move each of the folders.

4. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mack, II et al. in view of Kim and Akai, and further in view of Thompson (US 5,465,401).

Regarding claim 3, the combination of Mack, Kim and Akai fails to disclose that the sound volume in the speaker of the upper folder is automatically adjusted. However, Thompson discloses a mobile phone 50 with automatic adjustment of the sound volume of a speaker 53 in the upper part 56 of the phone. See FIG. 5 and col. 10, lines 49-54. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the mobile phone of Mack, Kim and Akai by automatically adjusting the sound volume of the speaker, as taught by Thompson, so as to allow a user to hear a caller at a comfortable volume level when the incoming signal level fluctuates due to noise and other causes.

5. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mack, II et al. in view of Kim and Akai, and further in view of McC Estabrook (US 6,052,579).

Regarding claim 6, the combination of Mack, Kim and Akai fails to disclose a mobile phone including an antenna having a radial area maximized by the hinge. However, McC Estabrook discloses a mobile phone 100 having an antenna 116 that is retracted by a hinge 106 when the phone is folded and extended by the hinge when the phone is opened. Thus, the radial area of the antenna is maximized by the hinge when the phone is opened. See FIGS. 1 and 2 and col. 4, lines 15-22. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the mobile phone of Mack, Kim and Akai to maximize the area an antenna by a hinge, as taught by McC Estabrook, for the purpose of freeing a user from having to extend and retract the antenna manually.

*Allowable Subject Matter*

6. Claims 7-9, 11, 13-15, 16, 19 and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. Claim 17 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

8. The following is a statement of reasons for the indication of allowable subject matter: the prior art fails to disclose a combination of elements in mobile phone, including a plurality of buttons that are arranged around the speaker of the upper folder or lower folder, as in claims 7, 9, 13-15 and 19; an antenna having an antenna feed point and upper and lower first radials arranged in the main body, having a second upper radial arranged in the upper folder and having a second

Art Unit: 2688

lower radial arranged in the lower folder, whereby the antenna has a maximized radial area, as in claims 11, 16 and 20; and a hinge that connects the upper member to one end of the main body also connecting the upper first radial to the upper second radial and a hinge that connects the lower member to the other end of the main body also connecting the lower first radial to the lower second radial, as in claim 17.

### *Response to Arguments*

9. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sam Bhattacharya whose telephone number is (571) 272-7917.


The examiner can normally be reached on Weekdays, 9-6, with first Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, George Eng can be reached on (571) 272-7495. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2688

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

sb

  
GEORGE ENG  
SUPERVISORY PATENT EXAMINER